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REPORT

CD NO.

50X1-HUM

COUNTRY	USSR	DATE OF INFORMATION	1947 - 1950
SUBJECT	Scientific - Medicine, animal virus diseases		
HOW PUBLISHED	Periodical and book	DATE DIST.	9 May 1952
WHERE PUBLISHED	Moscow	NO. OF PAGES	3
DATE PUBLISHED	1947 - 1950		
LANGUAGE	Russian	SUPPLEMENT TO REPORT NO.	

THIS IS UNEVALUATED INFORMATION

SOURCE Periodical and book as indicated.

USSR ARTICLES ON HOG CHOLERA IN 1947

Following are brief summaries of Soviet articles on hog cholera for the year 1947. Numbers in parentheses refer to appended sources.

During the year 1947, four papers on hog cholera were published in the periodical Veterinariya. In 1946, there were no articles on the subject in that periodical, while from 1948 to 1951, the average number of papers per year on hog cholera was between one and two.

The increased number of publications in 1947 may be the result of lifting wartime restrictions in the second half of 1946. It may also be caused by the fact that hog cholera spread widely through the part of the USSR overrun by the Germans, and that measures for eradicating this disease, which was, under the circumstances, considered an obstacle to the successful development of the USSR hog-breeding program in the postwar period, were being planned and put into action in 1947 - 1948 (1)

Among articles published in 1947 in Veterinariya, there is an account of results obtained with crystal-violet vaccine. This article was written by I. I. Kulesko of the Ukrainian Institute of Experimental Veterinary Medicine (2), who later received a Stalin Prize for his work on introducing crystal-violet vaccine and improving the technology of its production.(3) In discussing the advantages and disadvantages of immunization with crystal-violet vaccine, Kulesko points out that although immunity is established much more slowly after administration of the vaccine that after simultaneous inoculations, the vaccine method is safer because it does not involve the use of a live and highly active virus for inoculations. He further states that for the reason indicated, the use of simultaneous inoculations had been practically abandoned in the USSR in 1947.(2)

That this situation has changed, at least on large farms of the sovkhoz type, is indicated by an article in 1950 by M. I. Belavtsev, Veterinary Physician, Ministry of Sovkhozes USSR, which appeared in Veterinariya. On the basis of data referring to the application of both crystal-violet vaccine and simultaneous inoculations, Belavtsev arrives at the conclusion that the crystal-violet vaccine method is of doubtful value, mainly because the action of the

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vaccine is too slow. He recommends the use of an accelerated method of simultaneous inoculations, developed by him and his group, which, according to his data, is both safe and effective. (4)

In discussing measures for disinfecting pig sties, other buildings, and the grounds at hog farms infected with hog cholera, A. A. Polyakov describes model experiments (using B. coli) on disinfection at farms and full-scale tests at a farm actually infected with cholera and containing 30 pigs. According to Polyakov, the sty, which was solidly constructed of wood, was treated with sodium hydroxide and chlorinated lime solutions after thorough mechanical cleaning. In the course of the final disinfection, the wooden floors and partitions were dismantled and treated separately. Polyakov also describes minutely the disinfection and partial destruction by burning of equipment and utensils. As for methods of treatment and prophylaxis, passive immunization only was carried out. The author remarks that it is very difficult to eradicate the disease at large farms, because of the stability of the virus, and believes renewed outbreaks of the disease after introduction of additional animals from the outside are caused by insufficient disinfection. (5)

However, Belavtsev and his group, who applied different methods of prophylaxis and treatment at much larger farms (groups of 300 - 3,000 heads were involved) in combination with cleaning and disinfection (4), do not complain about the difficulty of eradicating the disease because of the inadequacy of disinfection methods.

In regard to some epidemiological aspects of the disease, particularly on conditions in Germany, a report was published in Veterinariya by two army veterinarians, dealing with an outbreak which occurred in Mecklenburg in March 1946. The authors state that prior to the end of 1945, hog cholera had not been reported for 20 years in Mecklenburg. The disease apparently was brought in by war refugees from Eastern Prussia and Pomerania, where it was known to occur. The hogs that caught the disease had it in a very acute form. They exhibited symptoms of paralysis, swelling of the throat that indicated affliction of the thyroid and lymphatic glands, and profound changes of the total parenchym tissue of the liver. Notwithstanding the severe form of the disease, the hogs did not react to it by an increase of temperature; only those animals which had a secondary infection (B. suisepticus or B. suipestifer) in addition to hog cholera exhibited fever. The authors speculate on whether or not the absence of fever was due to an unusually high or unusually low virulence of the causative factor, i. e., the hog cholera virus. (6)

In regard to prophylaxis and therapy of hog cholera, an article in Veterinariya on a bivalent serum active against both hog cholera and swine erysipelas merits attention. Although the article was published in 1947, the work in question had been done in 1941 - 1942. According to the authors, experiments on the hyperimmunization of hogs against both diseases were carried out during that period at the Omsk Biologicals Plant. The bivalent serum obtained at Omsk proved to be highly specific. In a dose of 0.3 cc, it prevented infection of pigeons with a virulent culture of Bact. rhusiophatiae suis. When 0.5-0.9 cc per kg of weight were used, infection of pigs 4-10 months old with hog cholera was prevented. Field tests showed that the bivalent serum has a therapeutic effect on hogs suffering from erysipelas and that it exerts both therapeutic and prophylactic effects in cases of hogs infected with cholera. The authors point out the value of the serum in cases of mixed infection and of doubtful diagnosis in which either disease may be suspected. (7)

SOURCES

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5. A. A. Polyakov, "Disinfection in Hog Cholera," Veterinariya, Vol XXIV, No 8, 1947, pp 39-41.

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